

Publication of the Ferns and Fern-allies in the "Primitiae Florae Costaricensis"

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In October 1887 Henri Pittier de Fabrega emigrated from his native Switzerland to Costa Rica. There he founded the Instituto Físico-Geográfico Nacional de Costa Rica in 1889. He continued to direct this institute until 1903.² His collections, along with those of Carlos Wercklé, Pablo Biolley, and Adolfo Tonduz, were among the first large plant collections to be made in Costa Rica, and are now preserved in the Herbario Nacional of the Museo Nacional de Costa Rica in San José.

Pittier, who was a member of several major European scientific societies, including the Société Royale de Botanique de Belgique, desired to publish on the large and interesting Costa Rican flora that he and his associates were collecting so assiduously. For this purpose he enlisted the aid of a number of European taxonomic specialists. Their contributions, each devoted to a single group or family of plants, generally were published in European journals and then reprinted by the Jardin Botanique de l'Etat, Bruxelles, as fascicles of the "Primitiae Florae Costaricensis."

In the beginning of the "Primitiae" (1891), Th. A. Durand, of the Jardin Botanique de l'Etat and its Director from 1902 to 1912 (Morton, 1971, p. 65), shared the general editorship with Pittier. As the series continued, some of the contributors died or withdrew and were replaced by others, which led to changing places of publication and deposition of the holotypes.

As part of my own study of the Pteridophyta of Costa Rica, Panama, and the Chocó, it has been necessary to determine the publication dates and the publishing authors of the various parts of the "Primitiae" that deal with Pteridophyta. Also, it is helpful to know in which institutions the holotype or syntype specimens of species described in the "Primitiae" have been deposited.

The Pteridophyta were published in five parts. The first was by J.-E. Bommer (1829-1895), pteridologist at the Jardin Botanique in Bruxelles, and by H. Christ (1833-1933), of Basel, Switzerland. Bommer died before the first part of Pteridophyta was published, although he is indicated as a coauthor. Probably he was more deeply involved with the publication of some new species in a separate article titled "Filices Novae" in the "Bulletin de l'Herbier Boissier," which antedated publication of the first Pteridophyta fascicle of the "Primitiae" (see

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² For an account of Pittier's life and botanical collecting in Panama, see Dwyer (1974). Dwyer (*in litt.*) said Jorge León had pointed out to him that, contrary to his article in "Taxon," Pittier did marry. His wife was from Panama, and her family name was Fabrega.

TABLE 1. PUBLICATION OF THE "PRIMITIAE" FASCICLES CONTAINING FERNS AND FERN-ALLIES

<i>Authors</i>	<i>Title</i>	<i>Original Publication</i>	<i>Reprint Publication</i>	<i>Types</i>
Bommer or Christ in Dur. & Pitt.	Filices	Bull. Soc. Roy. Bot. Belg. 35: Mém. 167-249. 1896 ¹ 250-252. 253-255.	Prim. Fl. Costar. 1(3): 97-179. 1897. 180-182. 183-185.	BR
Christ in Pitt.	Filices 2d Mém.	Prim. Fl. Costar. 3(1): 1-47. 1901. 49-51. 53-57. 59-62. 63-65. 67. 69.		BR or P
Christ	Filices & Lycopodiaceae III	Bull. Herb. Boiss. II, 4: 936-951. 1904. 957-972. 1089-1104. Bull. Herb. Boiss. II, 5: 1-16. 1905. 248-260.	Prim. Fl. Costar. 3: 1-16. 1905. 17-32. 33-48. 49-64. 65-77.	P
Christ	Filices IV	Bull. Herb. Boiss. II, 6: 45-58. 1906. 159-172. 177-192. 279-288.	Prim. Fl. Costar. 3: 1-14. 1906. 15-28. 29-44. 45-54.	P
Christ	Filices V	Bull. Herb. Boiss. II, 7: 257-274. 1907. 585-586. Bull. Soc. Bot. Gen. II, 1: 216-236. 1909.	Prim. Fl. Costar. 3: 61-78. 1909. "79-80." ² 81-101.	P

¹The following names indicated in this publication as new were in fact published earlier by Bommer & Christ in the Bull. Herb. Boiss. 4: 657-663. Oct 1896, on the pages indicated: *Aspidium conterminum* (p. 659), *A. prominulum* (p. 659), *Asplenium ceratolepis* (p. 658), *Gleichenia retroflexa* (p. 657), *Hymenophyllum durandii* (p. 657), *Polypodium costaricense* (p. 660), *P. cyclocolpon* (p. 659), *P. flagellare* (p. 660), *P. myriolepis* (p. 661), *P. rosulatum* (p. 662), *P. thyssanolepis* var. *bipinnatifidum* (p. 661), and *Pteris mollis* (p. 658).

²The reprint is paged (1) and (2). Pages numbers "79-80" are inferred from the preceeding and following parts.

Table 1, footnote 1), than he was with the "Primitiae" fascicle itself, which had additions made to it, apparently solely by Christ.

Durand withdrew from the general editorship at the close of volume I of the "Primitiae," leaving Pittier to carry on alone. Christ continued his publication of the Pteridophyta. Pittier left Costa Rica in 1904, after publishing fascicle 1 of volume III, and Christ alone published the last three parts of Pteridophyta as journal articles, with specially paged reprints, as had been Pittier's custom.

The original articles and the "Primitiae" reprints³ each have both the original journal pagination and continuous "Primitiae" pagination. In all but the second fascicle of Pteridophyta, which bears only the "Primitiae" pagination, the "Primitiae" pagination is in parentheses and the original journal pagination is not. In general, the Pteridophyta fascicles each originally appeared in several parts extending over a period of months or years.

Table 1 summarizes the publication data. I would like to mention several important points to show my reasons for adopting certain data in the table.

The "Bulletin de la Société Royale de Botanique de Belgique" appeared each year in two parts. Usually each had first the "Mémoires," containing scientific papers, and second the "Comptes rendus des séances," containing a record of the Society's monthly meetings, which often mention what was to be published in the succeeding "Mémoires." Tournay (1962, p. 36) dates the first "Mémoire" of volume 35 as 17 November 1896. His paper is invaluable to anyone wishing to understand the complexities of publication that have occurred during the long history of the "Bulletin."

Fascicle 1 of volume III of the "Primitiae," titled "Filices 2d Mémoire," appeared in 1901, as the outside of the wrapper indicates, not in 1896 or 1898. The notice on the inside of the wrapper, "Extrait des 'Anales del Instituto Físico-Geográfico Nacional'.—t. IX. 1896" is in error. Gómez (*in litt.*) says that the ferns and fern-allies were not published in volume 9 of the "Anales" and that this volume appeared in 1898, not in 1896. It would be possible to construe this fascicle as an addendum to volume 9 of the "Anales" published in 1901, but it is paged separately from the "Anales" and bears only the "Primitiae" pagination. In addition, Christensen (1905) cites the place of publication for new taxa published in this fascicle as "Prim. Fl. Costar. 3(1). 1901." It seems preferable to continue this usage.

The reprinted Pteridophyta fascicles III, IV, and V are headed "Extrait du *Bulletin de l'Herbier Boissier . . .*" and have had their pages rearranged to fill up the space between the parts as originally published. Therefore, it is probable that each of these "Primitiae" reprints was issued as a whole after its last part appeared in the original journal. If this is true, then the "Primitiae" fascicle can be dated no earlier than the date of its last part, as I have indicated in *Table 1*.

The holotypes or syntypes of Pteridophyta described in the "Primitiae" are

³ Gómez (*in litt.*) points out that in addition to the original journal publication and the doubly paged and re-arranged reprints, there exists a compilation of the "Primitiae" fascicles translated into Spanish that was published by the Instituto Físico-Geográfico de Costa Rica. This publication made the "Primitiae" readily available and understandable to the people of Costa Rica.

deposited mainly in Bruxelles or in Paris, as indicated in *Table 1*, with the exception of a few specimens that are in the Museo Nacional in San José. After Bommer's death in 1895, Durand sent the pteridophytes arriving from Costa Rica on loan to Christ, who had permission to keep the duplicates (Lawalrée, *in litt.*). Later on, Christ received the collections in bulk directly from Pittier. The two men had been companions in the Schweizerischen Botanischen Gesellschaft (Gómez, *in litt.*). From these collections Christ normally put the holotype or one or more syntypes in his own herbarium, which later became part of the general collection at Paris. Since the specimens are marked "Hb. Christ, Bâle," one can refer to their place of deposition as "P-Hb. Christ." Types of the names that Christ published in the 1901 portion of the "Primitiae" seem to be divided about equally between Bruxelles and Paris, perhaps because his arrangement with Bruxelles concerning the disposition of the types was not clearly formulated at that time. At any rate, each of these cases needs to be investigated. Lectotypes chosen by later authors do not necessarily conform with the above.

LITERATURE CITED

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